

## APPENDIX E

### MODIFICATIONS TO FDOC CONDITIONS DUE TO EMISSIONS REDUCTION REQUEST

## IV Permit Conditions - Revised

The following permit conditions will be imposed to ensure that the proposed project complies with all applicable District, State, and Federal Regulations. The conditions limit operational parameters such as fuel use, stack gas emission concentrations, and mass emission rates. Permit conditions will also specify abatement device operation and performance levels. To aid enforcement efforts, conditions specifying emission monitoring, source testing, and record keeping requirements are included. Furthermore, pollutant mass emission limits (in units of lb/hr and lb/MM Btu of natural gas fired) will ensure that daily and annual emission rate limitations are not exceeded.

To provide maximum operational flexibility, no limitations will be imposed on the type, or quantity of gas turbine start-ups or shutdowns. Instead, the facility must comply with daily and annual (consecutive twelve-month) mass emission limits at all times. Compliance with CO and NO<sub>x</sub> limitations will be verified by continuous emission monitors (CEMs) that will be in operation during all turbine operating modes, including start-up and shutdown. If the CO and NO<sub>2</sub> CEMs are not capable of accurately assessing gas turbine start-up and shutdown mass emission rates due to variable gas content and the differing response times of the gas monitors, then start-up and shutdown mass emission rates will be based upon the following emission rates for each turbine/hrsg unit:

### Cold Start-up

NO<sub>x</sub>: 170 lb/hr  
CO: 548 lb/hr  
POC: 26.25 lb/hr  
PM<sub>10</sub>: 11 lb/hr  
SO<sub>2</sub>: 1.62 lb/hr

### Hot Start-up

NO<sub>x</sub>: 164 lb/hr  
CO: 268 lb/hr  
POC: 17.9 lb/hr  
PM<sub>10</sub>: 11 lb/hr  
SO<sub>2</sub>: 1.62 lb/hr

### Shutdown

NO<sub>x</sub>: 153.9 lb/hr  
CO: 190.4 lb/hr  
POC: 15.7 lb/hr  
PM<sub>10</sub>: 11 lb/hr  
SO<sub>2</sub>: 1.62 lb/hr

Compliance with POC, SO<sub>2</sub>, and PM<sub>10</sub> mass emission limits will be verified by annual source testing.

In addition to permit conditions that apply to as designed operation of each CTG/HRSG power train and the auxiliary boilers, conditions will be imposed that govern equipment operation during the initial commissioning period when the CTG/HRSG power trains will operate without their SCR systems and oxidation catalysts fully operational. During this commissioning period, the gas turbines will be tested, control systems will be adjusted, and the HRSGs and auxiliary boiler steam tubes will be cleaned. Permit conditions 1 through 12 apply to this commissioning period and are intended to minimize emissions during the commissioning period and insure that those emissions will not contribute to the exceedence of any short-term applicable ambient air quality standard.

## **Potrero Unit 7 Permit Conditions**

### **Definitions:**

Clock Hour:	Any continuous 60-minute period beginning on the hour.
Calendar Day:	Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
Year:	Any consecutive twelve-month period of time
Heat Input:	All heat inputs refer to the heat input at the higher heating value (HHV) of the fuel, in Btu/scf.
Rolling 3-hour period:	Any three-hour period that begins on the hour and does not include start-up or shutdown periods.
Firing Hours:	Period of time during which fuel is flowing to a unit, measured in fifteen-minute increments.
MM Btu:	million British thermal units
Gas Turbine Start-up Mode:	The lesser of the first 256 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 27(b) and 27(d).
Gas Turbine Shutdown Mode:	The lesser of the 30 minute period immediately prior to the termination of fuel flow to the Gas Turbine or the period of time from non-compliance with any requirement listed in Conditions 27(b) through 27(d) until termination of fuel flow to the Gas Turbine.
Specified PAHs:	The polycyclic aromatic hydrocarbons listed below shall be considered to Specified PAHs for these permit conditions. Any emission limits for Specified PAHs refer to the sum of the emissions for all six of the following compounds. Benzo[a]anthracene Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Dibenzo[a,h]anthracene

	Indeno[1,2,3-cd]pyrene
Corrected Concentration:	The concentration of any pollutant (generally NO <sub>x</sub> , CO, or NH <sub>3</sub> ) corrected to a standard stack gas oxygen concentration. For emission point P-55 (combined exhaust of S-55 Gas Turbine and S-56 HRSG duct burners) and emission point P-57 (combined exhaust of S-57 Gas Turbine and S-58 HRSG duct burners) the standard stack gas oxygen concentration is 15% O <sub>2</sub> by volume on a dry basis.
Commissioning Activities:	All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the Potrero PP Unit#7 construction contractor to insure safe and reliable steady state operation of the gas turbines, heat recovery steam generators, steam turbine, and associated electrical delivery systems.
Commissioning Period:	The Period shall commence when all mechanical, electrical, and control systems are installed and individual system start-up has been completed, or when a gas turbine is first fired, whichever occurs first. The period shall terminate when the plant has completed performance testing, is available for commercial operation, and has initiated sales to the power exchange.
Precursor Organic Compounds (POCs):	Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate
CEC CPM:	California Energy Commission Compliance Program Manager
Potrero PP Unit#7:	Potrero Power Plant Unit 7

### Conditions for the Commissioning Period

1. The owner/operator of the Potrero PP Unit 7 shall minimize emissions of carbon monoxide and nitrogen oxides from S-55 and S-57 Gas Turbines and S-56 and S-58 Heat Recovery Steam Generators (HRSGs) to the maximum extent possible during the commissioning period. Conditions 1 through 12 shall only apply during the commissioning period as defined above. Unless otherwise indicated, Conditions 13 through 47 shall apply after the commissioning period has ended.
2. At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the S-55 & S-57 Gas Turbine combustors and S-56 & S-58 Heat Recovery Steam Generator duct burners shall be tuned to minimize the emissions of carbon monoxide and nitrogen oxides.
3. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturers and the construction contractor, the A-55 and A-57 SCR Systems and A-56 and A-58 CO Oxidation Catalyst Systems shall be installed, adjusted, and operated to minimize

the emissions of carbon monoxide and nitrogen oxides from S-55 & S-57 Gas Turbines and S-56 & S-58 Heat Recovery Steam Generators.

4. Coincident with the as designed operation of A-55 & A-57 SCR Systems, pursuant to conditions 3, 10, 11, and 12, the Gas Turbines (S-55 & S-57) and the HRSGs (S-56 & S-58) shall comply with the NO<sub>x</sub> and CO emission limitations specified in conditions 20(a) through 20(d).
5. The owner/operator of the Potrero PP Unit#7 shall submit a plan to the District Permit Services Division and the CEC CPM at least four weeks prior to first firing of S-55 or S-57 Gas Turbines describing the procedures to be followed during the commissioning of the gas turbines and HRSGs. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the Dry-Low-NO<sub>x</sub> combustors, the installation and operation of the SCR systems and oxidation catalysts, the installation, calibration, and testing of the CO and NO<sub>x</sub> continuous emission monitors, and any activities requiring the firing of the Gas Turbines (S-55 & S-57) and HRSGs (S-56 & S-58) without abatement by their respective SCR and CO Catalyst Systems.
6. During the commissioning period, the owner/operator of the Potrero PP Unit#7 shall demonstrate compliance with conditions 8 through 11 through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:
  - firing hours for each gas turbine and each HRSG
  - fuel flow rates to each train
  - stack gas nitrogen oxide emission concentrations at P-55 and P-57
  - stack gas carbon monoxide emission concentrations P-55 and P-57
  - stack gas carbon dioxide concentrations P-55 and P-57

The monitored parameters shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for the Gas Turbines (S-55 & S-57) and HRSGs (S-56 & S-58). The owner/operator shall use District-approved methods to calculate heat input rates, NO<sub>x</sub> mass emission rates, carbon monoxide mass emission rates, and NO<sub>x</sub> and CO emission concentrations, summarized for each clock hour and each calendar day. All records shall be retained on site for at least 5 years from the date of entry and made available to District personnel upon request.

7. The District-approved continuous emission monitors specified in condition 5 shall be installed, calibrated, and operational prior to first firing of the Gas Turbines (S-55 & S-57) and Heat Recovery Steam Generators (S-56 & S-58). After first firing of the turbines and auxiliary boilers, the detection range of these continuous emission monitors shall be adjusted as necessary to accurately measure the resulting range of CO and NO<sub>x</sub> emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval.

8. The total number of firing hours of S-55 Gas Turbine and S-56 Heat Recovery Steam Generator without abatement of nitrogen oxide emissions by A-55 SCR System and/or A-56 Oxidation Catalyst System shall not exceed 500 hours during the commissioning period. Such operation of S-55 Gas Turbine and S-56 HRSG without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District Permit Services and Enforcement Divisions and the unused balance of the 500 firing hours without abatement shall expire.
9. The total number of firing hours of S-57 Gas Turbine and S-58 Heat Recovery Steam Generator without abatement of nitrogen oxide emissions by A-57 SCR System and/or A-58 Oxidation Catalyst System shall not exceed 500 hours during the commissioning period. Such operation of S-57 Gas Turbine and S-58 HRSG without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational. Upon completion of these activities, the owner/operator shall provide written notice to the District Permit Services and Enforcement Divisions and the unused balance of the 500 firing hours without abatement shall expire.
10. The total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM<sub>10</sub>, and sulfur dioxide that are emitted by the Gas Turbines (S-55 & S-57) and Heat Recovery Steam Generators (S-56 & S-58) during the commissioning period shall accrue towards the consecutive twelve-month emission limitations specified in condition 24.
11. Combined pollutant mass emissions from the Gas Turbines (S-55 & S-57) and Heat Recovery Steam Generators (S-56 & S-58) shall not exceed the following limits during the commissioning period. These emission limits shall include emissions resulting from the start-up and shutdown of the Gas Turbines (S-55 & S-57).

NO <sub>x</sub> (as NO <sub>2</sub> )	8,428 pounds per calendar day	400 pounds per hour
CO	12,982 pounds per calendar day	584 pounds per hour
POC (as CH <sub>4</sub> )	668 pounds per calendar day	
PM <sub>10</sub>	624 pounds per calendar day	
SO <sub>2</sub>	148.2 pounds per calendar day	

12. Prior to the end of the Commissioning Period, the Owner/Operator shall conduct a District and CEC approved source test using external continuous emission monitors to determine compliance with condition 20. The source test shall determine NO<sub>x</sub>, CO, and POC emissions during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three start-up and three shutdown periods. No later than twenty working days before the execution of the source tests, the Owner/Operator shall submit to the District and the CEC Compliance Program Manager (CPM) a detailed source test plan designed to satisfy the requirements of this condition. The District and the CEC CPM will notify the Owner/Operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The Owner/Operator shall incorporate the District and CEC CPM comments into the test plan. The

Owner/Operator shall notify the District and the CEC CPM within seven (7) working days prior to the planned source testing date. Source test results shall be submitted to the District and the CEC CPM within 30 days of the source testing date.

**Conditions for the Gas Turbines (S-55 & S-57) and the Heat Recovery Steam Generators (HRSGs; S-56 & S-58)**

13. The Gas Turbines (S-55 and S-57) and HRSG Duct Burners (S-56 and S-58) shall be fired exclusively on natural gas. (BACT for SO<sub>2</sub> and PM<sub>10</sub>)
14. The combined heat input rate to each power train consisting of a Gas Turbine and its associated HRSG (S-55 & S-56 and S-57 & S-58) shall not exceed 2,249.1 MM Btu per hour, averaged over any rolling 3-hour period. (PSD for NO<sub>x</sub>)
15. The combined heat input rate to each power train consisting of a Gas Turbine and its associated HRSG (S-55 & S-56 and S-57 & S-58) shall not exceed 53,978.4 MM Btu per calendar day. (PSD for PM<sub>10</sub>)
16. The combined cumulative heat input rate for the Gas Turbines (S-55 & S-57) and the HRSGs (S-56 & S-58) shall not exceed 29,300,000~~37,960,000~~ MM Btu per year. (Offsets)
17. The HRSG duct burners (S-56 and S-58) shall not be fired unless its associated Gas Turbine (S-55 and S-57, respectively) is in operation. (BACT for NO<sub>x</sub>)
18. Except as provided in Condition No. 8, S-55 Gas Turbine and S-56 HRSG shall be abated by the properly operated and properly maintained A-55 Selective Catalytic Reduction (SCR) System whenever fuel is combusted at those sources and the A-55 catalyst bed has reached minimum operating temperature. (BACT for NO<sub>x</sub>)
19. Except as provided in Condition No. 9, S-57 Gas Turbine and S-58 HRSG shall be abated by the properly operated and properly maintained A-57 Selective Catalytic Reduction (SCR) System whenever fuel is combusted at those sources and the A-57 catalyst bed has reached minimum operating temperature. (BACT for NO<sub>x</sub>)
20. The Gas Turbines (S-55 & S-57) and HRSGs (S-56 & S-58) shall comply with requirements (a) through (h) under all operating scenarios, including duct burner firing mode and steam injection power augmentation mode. Requirements (a) through (h) do not apply during a gas turbine start-up or shutdown. (BACT, PSD, and Toxic Risk Management Policy)
  - (a) Nitrogen oxide mass emissions (calculated in accordance with District approved methods as NO<sub>2</sub>) at P-55 (the combined exhaust point for the S-55 Gas Turbine and the S-56 HRSG after abatement by A-55 SCR System) shall not exceed 20.2 pounds per hour or 0.0090 lb./MM Btu (HHV) of natural gas fired. Nitrogen oxide mass emissions (calculated in accordance with District approved methods as NO<sub>2</sub>) at P-57 (the combined exhaust point for the S-57 Gas Turbine and the S-58 HRSG after abatement by A-57

SCR System) shall not exceed 20 pounds per hour or 0.0090 lb./MM Btu (HHV) of natural gas fired. (PSD for NO<sub>x</sub>)

- (b) The nitrogen oxide emission concentration at emission points P-55 and P-57 each shall not exceed 2.5 ppmv, on a dry basis, corrected to 15% O<sub>2</sub>, averaged over any 1-hour period. (BACT for NO<sub>x</sub>)
  - (c) Carbon monoxide mass emissions at P-55 and P-57 each shall not exceed 0.013 lb./MM Btu (HHV) of natural gas fired or 29.22 pounds per hour, averaged over any rolling 3-hour period. (PSD for CO)
  - (d) The carbon monoxide emission concentration at P-55 and P-57 each shall not exceed 6 ppmv, on a dry basis, corrected to 15% O<sub>2</sub>, averaged over any rolling 3-hour period. (BACT for CO)
  - (e) Ammonia (NH<sub>3</sub>) emission concentrations at P-55 and P-57 each shall not exceed 5 ppmv, on a dry basis, corrected to 15% O<sub>2</sub>, averaged over any rolling 3-hour period. This ammonia emission concentration shall be verified by the continuous recording of the ammonia injection rate to A-55 and A-57 SCR Systems. The correlation between the gas turbine and HRSG heat input rates, A-55 and A-57 SCR System ammonia injection rates, and corresponding ammonia emission concentration at emission points P-55 and P-57 shall be determined in accordance with permit condition #29. (TRMP for NH<sub>3</sub>)
  - (f) Precursor organic compound (POC) mass emissions (as CH<sub>4</sub>) at P-55 and P-57 each shall not exceed 5.6 pounds per hour or 0.0025 lb./MM Btu of natural gas fired. (BACT)
  - (g) Sulfur dioxide (SO<sub>2</sub>) mass emissions at P-55 and P-57 each shall not exceed 3.12 pounds per hour or 0.0014 lb./MM Btu of natural gas fired. (BACT)
  - (h) Particulate matter (PM<sub>10</sub>) mass emissions at P-55 and P-57 each shall not exceed 11 pounds per hour or 0.00592 lb./MM Btu of natural gas fired when the HRSG duct burners are not in operation. Particulate matter (PM<sub>10</sub>) mass emissions at P-55 and P-57 each shall not exceed 13 pounds per hour or 0.00574 lb./MM Btu of natural gas fired when the HRSG duct burners are in operation. (BACT)
21. The regulated air pollutant mass emission rates from each of the Gas Turbines (S-55 and S-57) during a start-up or a shutdown shall not exceed the limits established below. (PSD)

	Cold Start-Up (lb./start-up)	Hot Start-Up (lb./start-up)	Shutdown (lb./shutdown)
Oxides of Nitrogen (as NO <sub>2</sub> )	452	189	59
Carbon Monoxide (CO)	990	291	73
Precursor Organic Compounds (as CH <sub>4</sub> )	112	27	6

In the event that CEMs are not available or reliable, the following emission factors shall be used to estimate startup and shutdown emissions. These emission rates per unit (turbine/HRSG) are as follows:

	Cold Startup	Hot Startup	Shutdown
NO <sub>x</sub> (as NO <sub>2</sub> ) lb/hr	170	164	59
CO lb/hr	548	268	73
POC lb/hr	26.3	17.9	6
PM-10 lb/hr	11	11	11
SO <sub>2</sub> lb/hr	1.62	1.62	1.62

22. The Gas Turbines (S-55 and S-57) shall not be in start-up mode simultaneously. (PSD)
23. Total combined emissions from the Gas Turbines and HRSGs (S-55, S-56, S-57, and S-58), including emissions generated during Gas Turbine start-ups and shutdowns shall not exceed the following limits during any calendar day:
  - (a) 2,002 pounds of NO<sub>x</sub> (as NO<sub>2</sub>) per day (CEQA)
  - (b) 3,604 pounds of CO per day (PSD)
  - (c) 478 pounds of POC (as CH<sub>4</sub>) per day (CEQA)
  - (d) 624 pounds of PM<sub>10</sub> per day (PSD)
  - (e) 148.2 pounds of SO<sub>2</sub> per day (BACT)
24. Cumulative combined emissions from the Gas Turbines and HRSGs (S-55, S-56, S-57, and S-58), including emissions generated during gas turbine start-ups and shutdowns shall not exceed the following limits during any consecutive twelve-month period:
  - (a) ~~137.9~~178.4 tons of NO<sub>x</sub> (as NO<sub>2</sub>) per year (Offsets, PSD)
  - (b) ~~205.9~~265.1 tons of CO per year (Cumulative Increase)
  - (c) ~~37.8~~49.1 tons of POC (as CH<sub>4</sub>) per year (Offsets)
  - (d) ~~86.3~~110.5 tons of PM<sub>10</sub> per year (Offsets, PSD)
  - (e) ~~19.8~~26.0 tons of SO<sub>2</sub> per year (Cumulative Increase)
25. a. The maximum projected annual toxic air contaminant emissions (per condition 28) from the Gas Turbines and HRSGs combined (S-55, S-56, S-57, and S-58) shall not exceed the following limits:
 

4,208 pounds of formaldehyde per year  
 520 pounds of benzene per year  
 41 pounds of Specified polycyclic aromatic hydrocarbons (PAHs) per year

unless the following requirement is satisfied:

The owner/operator shall perform a health risk assessment using the emission rates determined by source test and the most current Bay Area Air Quality Management District approved procedures and unit risk factors in effect at the time of the analysis. This risk analysis shall be submitted to the District and the CEC CPM within 60 days of the source test date. The owner/operator may request that the District and the CEC CPM revise the

carcinogenic compound emission limits specified above. If the owner/operator demonstrates to the satisfaction of the APCO that these revised emission limits will result in a cancer risk of not more than 1.0 in one million, the District and the CEC CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above. (TRMP)

b. The maximum projected annual Hazardous Air Pollutant (HAP) emissions from the Gas Turbines and HRSGs combined (S-55, S-56, S-57, and S-58) shall not exceed the following limit:

20,000 pounds of hexane per year  
(US-CAA, Section 112(g))

Conformance with this limit shall be verified by the source testing in condition 32.

26. The owner/operator shall demonstrate compliance with conditions 14 through 17, 20(a) through 20(d), 21, 23(a), 23(b), 24(a), and 24(b) by using properly operated and maintained continuous monitors (during all hours of operation including equipment Start-up and Shutdown periods) for all of the following parameters:

- (a) Firing Hours and Fuel Flow Rates for each of the following sources: S-55 & S-56 combined and S-57 & S-58 combined.
- (b) Carbon Dioxide (CO<sub>2</sub>) or Oxygen (O<sub>2</sub>) concentrations, Nitrogen Oxides (NO<sub>x</sub>) concentrations, and Carbon Monoxide (CO) concentrations at each of the following exhaust points: P-55 and P-57.
- (c) Ammonia injection rate at A-55 and A-57 SCR Systems
- (d) Steam injection rate at S-55 & S-57 Gas Turbine Combustors

The owner/operator shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the owner/operator shall calculate and record the total firing hours, the average hourly fuel flow rates, and average hourly pollutant emission concentrations.

The owner/operator shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:

- (e) Heat Input Rate for each of the following sources: S-55 & S-56 combined and S-57 & S-58 combined.
- (f) Corrected NO<sub>x</sub> concentrations, NO<sub>x</sub> mass emissions (as NO<sub>2</sub>), corrected CO concentrations, and CO mass emissions at each of the following exhaust points: P-55 and P-57.

Applicable to emission points P-55 and P-57, the owner/operator shall record the parameters specified in conditions 26(e) and 26(f) at least once every 15 minutes (excluding normal calibration periods). As specified below, the owner/operator shall calculate and record the following data:

- (g) total Heat Input Rate for every clock hour and the average hourly Heat Input Rate for every rolling 3-hour period.
- (h) on an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and associated HRSG combined and all four sources (S-55, S-56, S-57, and S-58) combined.
- (i) the average NO<sub>x</sub> mass emissions (as NO<sub>2</sub>), CO mass emissions, and corrected NO<sub>x</sub> and CO emission concentrations for every clock hour and for every rolling 3-hour period.
- (j) on an hourly basis, the cumulative total NO<sub>x</sub> mass emissions (as NO<sub>2</sub>) and the cumulative total CO mass emissions, for each calendar day for the following: each Gas Turbine and associated HRSG combined, and all four sources (S-55, S-56, S-57, and S-58) combined.
- (k) For each calendar day, the average hourly Heat Input Rates, Corrected NO<sub>x</sub> emission concentrations, NO<sub>x</sub> mass emissions (as NO<sub>2</sub>), corrected CO emission concentrations, and CO mass emissions for each Gas Turbine and associated HRSG combined.
- (l) on a daily basis, the cumulative total NO<sub>x</sub> mass emissions (as NO<sub>2</sub>) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all four sources (S-55, S-56, S-57, and S-58) combined.

(1-520.1, 9-9-501, BACT, Offsets, NSPS, PSD, Cumulative Increase)

27. To demonstrate compliance with conditions 20(f), 20(g), 20(h), 23(c) through 23(e), and 24(c) through 24(e), the owner/operator shall calculate and record on a daily basis, the Precursor Organic Compound (POC) mass emissions, Fine Particulate Matter (PM<sub>10</sub>) mass emissions (including condensable particulate matter), and Sulfur Dioxide (SO<sub>2</sub>) mass emissions from each power train. The owner/operator shall use the actual Heat Input Rates calculated pursuant to condition 26, actual Gas Turbine Start-up Times, actual Gas Turbine Shutdown Times, and CEC and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows:
- (a) For each calendar day, POC, PM<sub>10</sub>, and SO<sub>2</sub> emissions shall be summarized for: each power train (Gas Turbine and its respective HRSG combined) and all four sources (S-55, S-56, S-57, and S-58) combined.
  - (b) on a daily basis, the 365 day rolling average cumulative total POC, PM<sub>10</sub>, and SO<sub>2</sub> mass emissions, for all four sources (S-55, S-56, S-57, and S-58) combined.

(Offsets, PSD, Cumulative Increase)

28. To demonstrate compliance with Condition 25, the owner/operator shall calculate and record on an annual basis the maximum projected annual emissions of: Formaldehyde, Benzene, Specified PAHs and hexane. Maximum projected annual emissions shall be calculated using the maximum Heat Input Rate of 29,300,000 ~~37,960,000~~ MM Btu/year and the highest emission factor (pounds of pollutant per MM Btu of Heat Input) determined by any source test of the S-55 & S-57 Gas Turbines and/or S-56 & S-58 Heat Recovery Steam Generators. If this calculation method results in an unrealistic mass emission rate (the highest emission factor occurs at a low firing rate) the applicant may use an alternate calculation, subject to District approval. (TRMP)

29. Within 60 days of start-up of the Potrero PP Unit #7, the owner/operator shall conduct a District-approved source test on exhaust point P-55 or P-57 to determine the corrected ammonia (NH<sub>3</sub>) emission concentration to determine compliance with condition 20(e). The source test shall determine the correlation between the heat input rates of the gas turbine and associated HRSG, A-55 or A-57 SCR System ammonia injection rate, and the corresponding NH<sub>3</sub> emission concentration at emission point P-55 or P-57. The source test shall be conducted over the expected operating range of the turbine and HRSG (including, but not limited to minimum, 70%, 85%, and 100% load) to establish the range of ammonia injection rates necessary to achieve NO<sub>x</sub> emission reductions while maintaining ammonia slip levels. Continuing compliance with condition 20(e) shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate. (TRMP)
30. Within 60 days of start-up of the Potrero PP Unit #7 and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-55 and P-57 while each Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum load (including steam injection power augmentation mode) to determine compliance with Conditions 20(a), (b), (c), (d), (f), (g), and (h), while each Gas Turbine and associated Heat Recovery Steam Generator are operating at minimum load to determine compliance with Conditions 20(c) and (d), and to verify the accuracy of the continuous emission monitors required in condition 26. The owner/operator shall test for (as a minimum): water content, stack gas flow rate, oxygen concentration, precursor organic compound concentration and mass emissions, nitrogen oxide concentration and mass emissions (as NO<sub>2</sub>), carbon monoxide concentration and mass emissions, sulfur dioxide concentration and mass emissions, methane, ethane, and particulate matter (PM<sub>10</sub>) emissions including condensable particulate matter. (BACT, offsets)
31. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section and the CEC CPM prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section and the CEC CPM in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated above, the Owner/Operator shall measure the contribution of condensable PM (back half) to the total PM<sub>10</sub> emissions. However, the Owner/Operator may propose alternative measuring techniques to measure condensable PM such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile organic compounds. Source test results shall be submitted to the District and the CEC CPM within 60 days of conducting the tests. (BACT)
32. Within 60 days of start-up of the Potrero PP Unit #7 and on an biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test on exhaust point P-55 or P-57 while the Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum allowable operating rates to demonstrate compliance with Condition 25. If three consecutive biennial source tests demonstrate that the annual

emission rates calculated pursuant to condition 28 for any of the compounds listed below are less than the BAAQMD Toxic Risk Management Policy trigger levels shown, then the owner/operator may discontinue future testing for that pollutant:

Benzene	≤	26.8 pounds/year
Formaldehyde	≤	132 pounds/year
Specified PAHs	≤	0.18 pounds/year
Hexane	≤	20,000 pounds/year
(TRMP)		

33. The owner/operator of the Potrero PP Unit #7 shall submit all reports (including, but not limited to monthly CEM reports, monitor breakdown reports, emission excess reports, equipment breakdown reports, etc.) as required by District Rules or Regulations and in accordance with all procedures and time limits specified in the Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual. (Regulation 2-6-502)
34. The owner/operator of the Potrero PP Unit #7 shall maintain all records and reports on site for a minimum of 5 years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of plant upsets and related incidents. The owner/operator shall make all records and reports available to District and the CEC CPM staff upon request. (Regulation 2-6-501)
35. The owner/operator of the Potrero PP Unit #7 shall notify the District and the CEC CPM of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with all applicable District Rules, Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the Manual of Procedures, the owner/operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours of the violation of any permit condition. (Regulation 2-1-403)
36. The stack height of emission points P-55 and P-57 shall each be at least 180 feet above grade level at the stack base. (PSD, TRMP)
37. The Owner/Operator of Potrero PP Unit #7 shall provide adequate stack sampling ports and platforms to enable the performance of source testing. The location and configuration of the stack sampling ports shall be subject to BAAQMD review and approval. (Regulation 1-501)
38. Within 180 days of the issuance of the Authority to Construct for the Potrero PP Unit #7, the Owner/Operator shall contact the BAAQMD Technical Services Division regarding requirements for the continuous monitors, sampling ports, platforms, and source tests required by conditions 26, 29, 30 and 32. All source testing and monitoring shall be conducted in accordance with the BAAQMD Manual of Procedures. (Regulation 1-501)

39. Prior to the issuance of the BAAQMD Authority to Construct for the Potrero PP Unit #7, the Owner/Operator shall demonstrate that valid emission reduction credits in the amount of 158.591 ~~205.2~~ tons/year of Nitrogen Oxides, 43.739 ~~56.5~~ tons/year of Precursor Organic Compounds or equivalent (as defined by District Regulations 2-2-302.1 and 2-2-302.2), 95.465 ~~and 110.5~~ tons of Particulate Matter less than 10 microns, and 19.771 tons of Sulfur Dioxide are under their control through enforceable contracts, option to purchase agreements, or equivalent binding legal documents. (Offsets)
40. Prior to the start of construction of the Potrero PP Unit #7, the Owner/Operator shall provide to the District valid emission reduction credit banking certificates in the amount of 158.591 ~~205.2~~ tons/year of Nitrogen Oxides, 43.739 ~~56.5~~ tons/year of Precursor Organic Compounds or equivalent as defined by District Regulations 2-2-302.1 and 2-2-302.2, 95.465 ~~and 110.5~~ tons of Particulate Matter less than 10 microns, and 19.771 tons of Sulfur Dioxide. (Offsets)
41. Pursuant to BAAQMD Regulation 2, Rule 6, section 404.1, the owner/operator of the Potrero PP Unit #7 shall submit an application to the BAAQMD for a major facility review permit within 12 months of the issuance of the PSD Permit. (Regulation 2-6-404.1)
42. Pursuant to 40 CFR Part 72.30(b)(2)(ii) of the Federal Acid Rain Program, the owner/operator of the Potrero PP Unit #7 shall not operate either of the gas turbines until either: 1) a Title IV Operating Permit has been issued; 2) 24 months after a Title IV Operating Permit Application has been submitted, whichever is earlier. (Regulation 2, Rule 7)
43. The Potrero PP Unit #7 shall comply with the continuous emission monitoring requirements of 40 CFR Part 75. (Regulation 2, Rule 7)
44. The owner/operator shall take monthly samples of the natural gas combusted at the Potrero PP Unit #7. The samples shall be analyzed for sulfur content using District-approved laboratory methods or the owner/operator shall obtain certified analytical results from the gas supplier. The sulfur content test results shall be retained on site for a minimum of five years from the test date and shall be utilized to satisfy the requirements of 40 CFR Part 60, subpart GG. If the results from six consecutive monthly samples show results below 0.5 grains per 100 scf, the owner/operator may discontinue the sampling program with District approval. (cumulative increase)